

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

PERMIT
TO APPROPRIATE PUBLIC WATERS OF THE STATE OF WASHINGTON

- ☐ Surface Water (Issued in accordance with the provisions of Chapter 117, Laws of Washington for 1917, and amendments thereto, and the rules and regulations of the Department of Ecology.)
- ☒ Ground Water (Issued in accordance with the provisions of Chapter 263, Laws of Washington for 1945, and amendments thereto, and the rules and regulations of the Department of Ecology.)

PRIORITY DATE July 1, 1998	APPLICATION NUMBER G3-30098	PERMIT NUMBER G3-30098	CERTIFICATE NUMBER
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NAME Seattle City Light	(CITY) Metaline Falls	(STATE) Washington	(ZIP CODE) 99153
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The applicant is pursuant to the Report of Examination which has been accepted by the applicant, hereby granted a permit to appropriate the following public waters of the State of Washington, subject to existing rights and to the limitations and provisions set herein.

PUBLIC WATERS TO BE APPROPRIATED

SOURCE Three wells		
TRIBUTARY OF (IF SURFACE WATERS)		
MAXIMUM CUBIC FEET PER SECOND	MAXIMUM GALLONS PER MINUTE 1230	MAXIMUM ACRE FEET PER YEAR 1088

QUANTITY, TYPE OF USE, PERIOD OF USE

1230 gallons per minute, 1088 acre-feet per year, continuously, for powerhouse cooling and multiple domestic supply

LOCATION OF DIVERSION/WITHDRAWAL

APPROXIMATE LOCATION OF DIVERSION--WITHDRAWAL

1. 2430 feet north and 2712 feet west from the SE corner of Sec. 3, being within the NE $\frac{1}{4}$ SW $\frac{1}{4}$
2. 2270 feet north and 2537 feet west from the SE corner of Sec. 3, being within the NW $\frac{1}{4}$ SE $\frac{1}{4}$
3. 3664 feet north and 2507 feet west from the SE corner of Sec. 3, being within the SW $\frac{1}{4}$ NE $\frac{1}{4}$

1944

LOCATED WITHIN (SMALLEST LEGAL SUBDIVISION) 1: NE $\frac{1}{4}$ SW $\frac{1}{4}$, 2: NW $\frac{1}{4}$ SE $\frac{1}{4}$, 3: SW $\frac{1}{4}$ NE $\frac{1}{4}$	SECTION 3	TOWNSHIP N. 40	RANGE, (E. OR W.) W.M. 43 E.	W.R.I.A. 62	COUNTY Pend Oreille
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RECORDED PLATTED PROPERTY

LOT	BLOCK	OF (GIVE NAME OF PLAT OR ADDITION)
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LEGAL DESCRIPTION OF PROPERTY ON WHICH WATER IS TO BE USED

Administrative areas and powerhouse cooling within property owned or controlled by Seattle City Light and more specifically defined as the license boundary under FERC License for Project No. 2144 being within portions of Sections 3 and 10, T. 40 N., R. 43 E.W.M. in Pend Oreille County, Washington.

DESCRIPTION OF PROPOSED WORKS

Three wells, pumps and pressure distribution system

DEVELOPMENT SCHEDULE

BEGIN PROJECT BY THIS DATE: Started	COMPLETE PROJECT BY THIS DATE: September 1, 2010	WATER PUT TO FULL USE BY THIS DATE: September 1, 2011
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PROVISIONS

An approved measuring device shall be installed and maintained in accordance with RCW 90.03.360 and/or WAC 508-64-020 through WAC 508-64-040.

The amount of water granted is a maximum limit that shall not be exceeded and the water user shall be entitled only to that amount of water within the specified limit that is beneficially used and required.

This authorization to make use of public waters of the State is subject to existing rights, including any existing rights held by the United States for the benefit of Indians under treaty or otherwise.

A certificate of water right will not be issued until a final examination is made.

Nothing in this authorization shall be construed as satisfying other applicable federal, state, or local statutes, ordinances, or regulations.

All water wells constructed within the State shall meet the minimum standards for construction and maintenance as provided under RCW 18.104 (Washington Water Well Construction Act of 1971) and Chapter 173-160 WAC (Minimum Standards for Construction and Maintenance of Water Wells).

The installation of an access port, described in Ground Water Bulletin #1, shall be required prior to issuance of a final certificate of water right. In addition, an airline and pressure gauge shall be installed and maintained in operating condition. The pressure gauge shall be equipped with a standard tire valve and placed in an accessible location. The airline shall extend from land surface to the top of the pump bowls and the total airline length shall be reported to the Department of Ecology upon completion of the pump system.

A well log of the completed well shall be submitted by the driller to the Department of Ecology within thirty (30) days of completion of this well. This well log shall be complete and all information concerning the static water level in the completed well in addition to any pump test data shall be submitted as it is obtained.

Use of water under this authorization shall be contingent upon the water right holder's utilization of up to date water conservation practices and maintenance of efficient water delivery systems consistent with established regulation requirements and facility capabilities.

The Washington State Department of Fish and Wildlife (WDFW), has recommended that water rights from the Pend Oreille River be conditioned with instream flows of 7,700 cubic feet per second (cfs) on a year-round basis (as measured at the gage near Newport, Washington).

Provisions continued on page 3.

This permit shall be subject to cancellation should the permittee fail to comply with the above development schedule and/or to give notice to the Department of Ecology on forms provided by that Department documenting such compliance.

Given under my hand and the seal of this office at Spokane, Washington,

this 11th day of February, 2000,

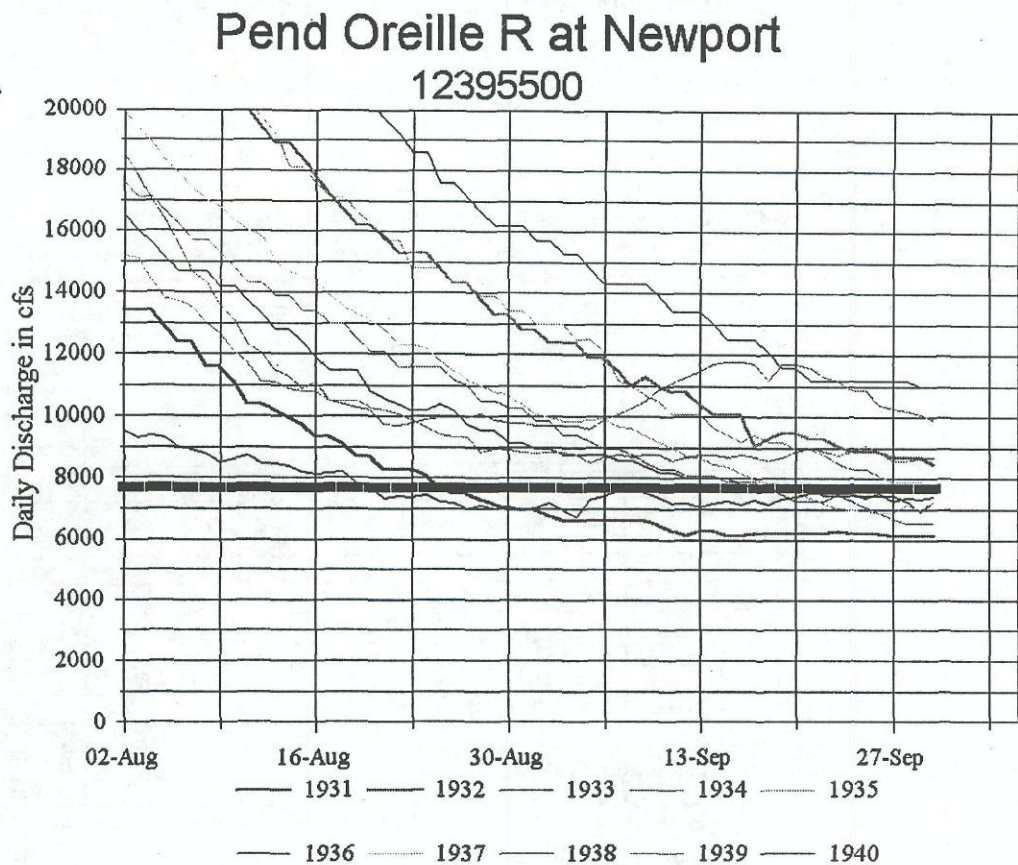
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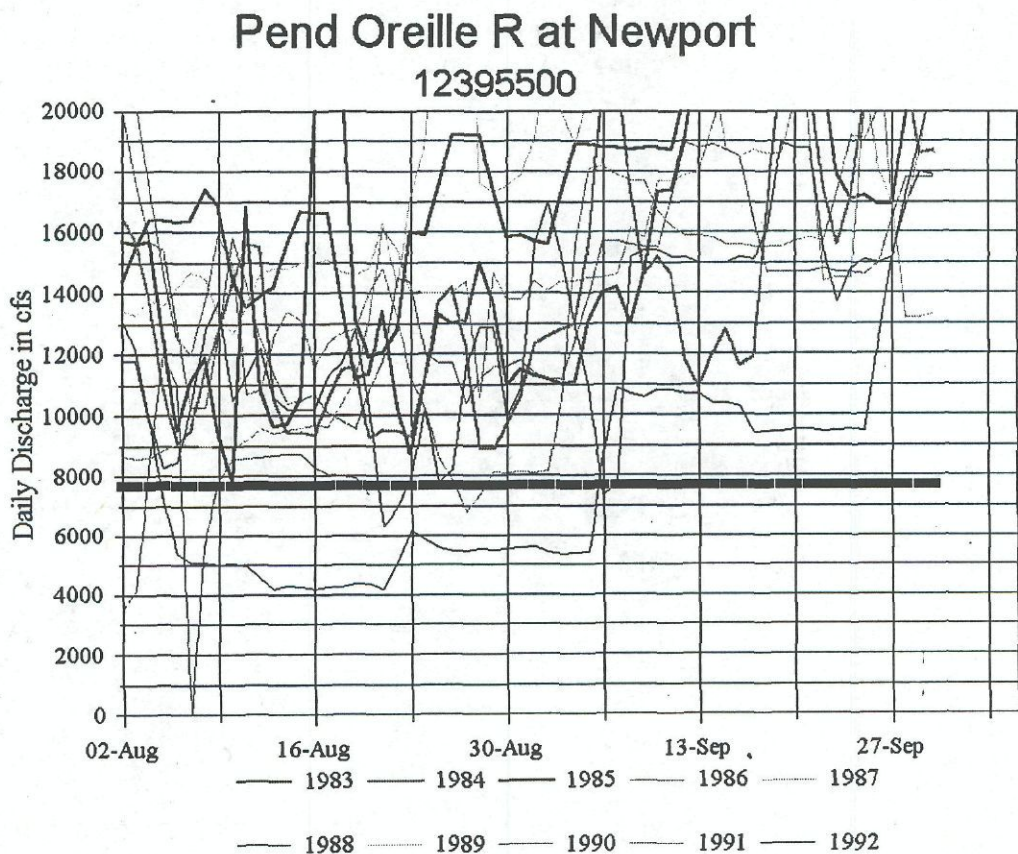
Department of Ecology

by [Signature]
George B. Schlender, Section Manager

The following hydrographs for the U.S.G.S. Gage on the Pend Oreille River at Newport, Idaho (12395500) demonstrate important hydrologic characteristics of the Pend Oreille River. Before the construction of the Albeni Falls Dam, the river exhibited normal, riverine flow conditions. The first hydrograph shows the typical late summer flow regime for 10 different water years in the 1930s and early 1940s. The solid line at 7700 cfs represents WDFW's recommended instream flow value as it would have applied to the river in the 1930s. When summer flows reached their baseflow, they tended to stay down at that level for the remainder of the water year.



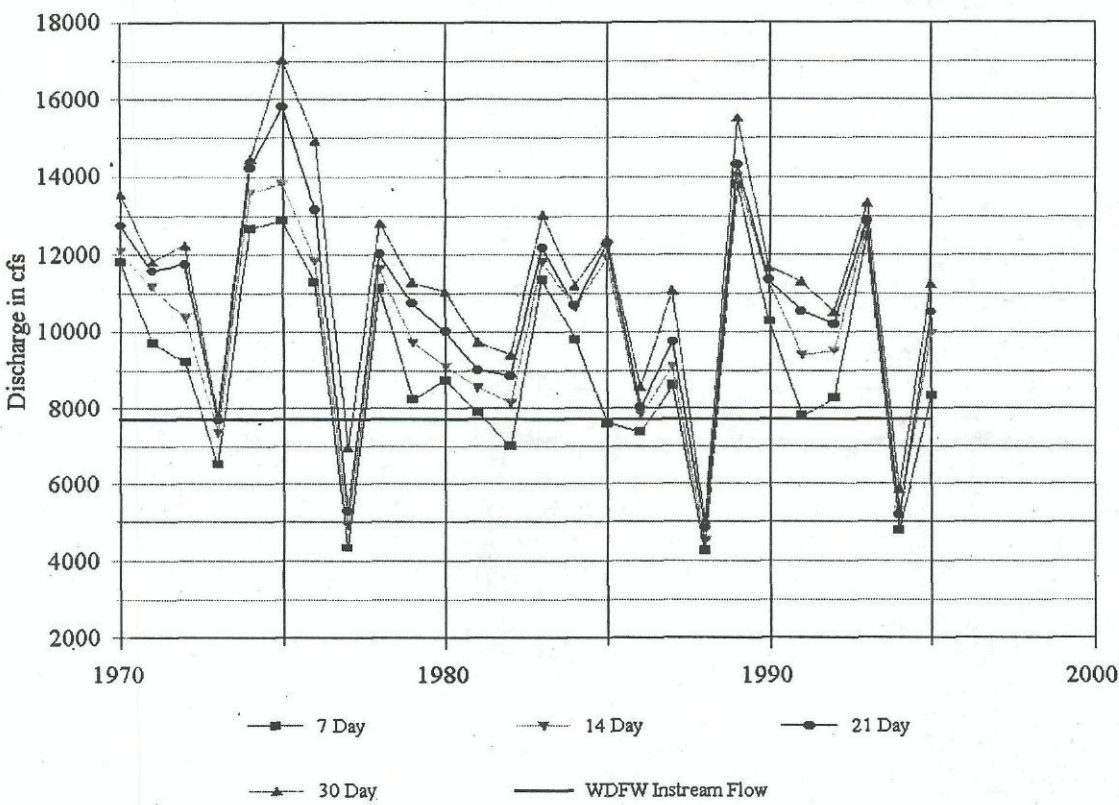
With the construction of the Albeni Falls dam in 1952, the character of the daily discharge changed dramatically from a riverine regime to an impounded, highly regulated, flow regime. The next hydrograph depicts the late summer, daily average discharge for a ten-year period in the 1980s through the early 1990s. The highly variable discharge data reflects the flows that result from the power generation demands that are placed on the river.



Trying to devise a methodology to implement the WDFW recommended instream flow given the current flow regime of the river requires some careful consideration of the day-to-day variability of the discharge. Given its fluctuations, just simply regulating junior water rights every time the daily average flow drops below 7700 cfs (the recommended instream flow) would be inappropriate and unworkable. Examining the data in the hydrograph indicates that the day-to-day variability is on the order of 5,000 cfs. Looking at a suite of duration frequency low flow analyses (7-day, 14-day, 21-day, and 30-day) for the 1970 through 1996 period allows us to get a better handle on when the flow in the river is truly flowing at a rate that is below the recommended instream flow. By looking at the actual daily flow data we can see that three water years during the period 1970 – 96 exhibited

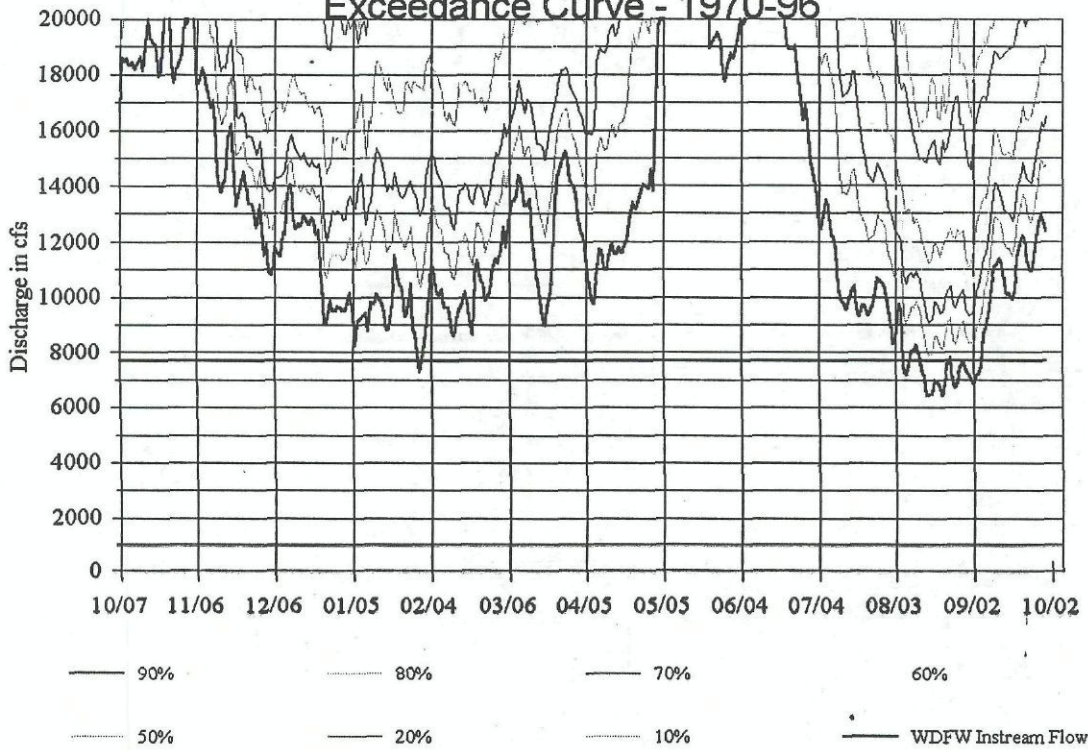
sustained, low flow periods that were lower than the 7700 cfs threshold (1977, 1988, and 1994). The data from the duration frequency analysis shows that using a 14-day low flow criteria gives us the best opportunity to identify the low flow events.

Pend Oreille River Low Flow Analysis



Calculating the exceedance probability for the daily average flows for the period 1970 – 96 allows us to see how frequently (on a yearly basis) and for what duration (how many weeks during each year) the flows on the Pend Oreille River can be expected to be below the recommended instream flow. The following graph demonstrates that on average, we can expect the summer low flows in the Pend Oreille River will be above the instream flow 8 to 9 times out of ten years. During that one in ten year event when the flow in the river is below the recommended flow, the low flow will last for approximately one month (typically August).

Pend Oreille R at Newport
Exceedance Curve - 1970-96



Therefore, this permit shall be conditioned that all diversion shall cease when the 14-day average flow in the Pend Oreille River falls below 7700 cfs (as measured at the Pend Oreille River at Newport gage) as recommended by WDFW.